TIGGER Transit Investments for Greenhouse Gas and Energy Reduction

U.S. Department of Transportation
Federal Transit Administration

Courtesy of CATS

Project name: Charlotte Hybrid Bus Project

Transit agency: City of Charlotte – Charlotte Area Transit System

Location: Charlotte, North Carolina

TIGGER goal: Energy and GHG emissions reduction

FTA region number: IV

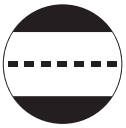
Award amount: $3,000,000

Congressional district: NC-8, NC-9, and NC-12

Funding mechanism: Recovery Act (ARRA)

Charlotte Area Transit System Adds Hybrid Buses to its Fleet

The Charlotte Area Transit System (CATS) will soon add six hybrid buses to its fleet thanks to funding from the TIGGER Program. With a price tag of $602,000 each, the new diesel-electric buses are powered by an internal combustion clean diesel engine paired with a generator, electric motor, and electric storage system.


Vehicle Project

Manufactured by Gillig, the hybrid buses feature smaller diesel engines that meet new near-zero emissions requirements, lower operating and life-cycle costs, and improved on-road performance and air quality. In addition to being 20% more fuel efficient than standard clean diesel buses, the hybrid buses include energy-efficient LED lighting, replacing fluorescent lights inside and out.

These state-of-the-art buses produce 95% less particulate matter and 30% fewer greenhouse gas emissions than the conventional diesel buses they will replace. In addition to improving air quality and saving energy and money, the hybrid drive system is adaptable to new technology developments that could lead to further emission reductions and fuel savings in the future.

The Charlotte Area Transit System (CATS) provides transit services to 1,725,000 people within a five county, two state metropolitan area—Cabarrus, Gaston, Mecklenburg, and Union counties in North Carolina along with York County in South Carolina. CATS operates 73 bus routes and 324 buses—255 40′ buses, 42 30′ buses, 7 40′ hybrid buses, and 19 rubber-wheel trolley buses. In 2010, CATS transported more than 24 million passengers and provided 12 million miles of service. In addition to bus service, CATS operates the LYNX light-rail service, which includes 9.6 miles of rail and 15 passenger stations.

Courtesy of CATS

A new diesel-electric hybrid bus manufactured by Gillig in service on a CATS route.

Emissions reductions are particularly important in Mecklenburg County, North Carolina, which was designated an air quality "non-attainment" area by the Environmental Protection Agency in 2004. Given the significant population growth in the Charlotte-Mecklenburg area over the last decade, these air quality issues are expected to persist for quite some time.

Impact:

CATS's six new fuel-efficient hybrid buses produce 95% less particulate matter and 30% fewer greenhouse gas emissions than the standard diesel buses they will replace.

One of the most dangerous air contaminants is ground-level ozone, which forms when sunlight strikes vehicle-exhaust fumes. Traffic congestion adds to ozone pollution because vehicles that are idling or moving very slowly don't run efficiently.

Between 2006 and 2007, the Charlotte area had 41 "ozone action days." Even though they have improved since then, ozone levels in Mecklenburg County remain 15% above the national health-based ozone standard.

CATS's 324 buses are responsible for 1.2% of the area's on-road pollution while comprising 5% of the on-road vehicles. Adding the new hybrid buses to the CATS fleet will help the transit agency achieve its goals of reducing greenhouse gas emissions and improving the air quality in the Charlotte-Mecklenburg area.

About TIGGER

The Transit Investment for Greenhouse Gas and Energy Reduction (TIGGER) Program *was established in 2009 by the U.S. Department of Transportation's Federal Transit Administration (FTA). Designed to reduce energy use and greenhouse gas emissions in transit agencies around the country, the TIGGER Program made funds available for capital investments that would reduce greenhouse gas emissions or lower the energy use of public transportation systems. An initial $100 million in American Recovery and Reinvestment Act grants funded 43 competitively-selected transit projects. In 2010, the FTA provided an additional $75 million in grants to fund 27 new TIGGER projects. These 70 projects are employing a variety of technologies to meet the program goals, including solar installations, building efficiency improvements, wind technology, wayside energy storage for rail, and purchase of more efficient buses. In fiscal year 2011, FTA provided an additional $49.9 million to continue the program.*

For More Information

Charlotte Area Transit System:
charmeck.org/city/charlotte/cats/

FTA TIGGER:
www.fta.dot.gov/TIGGER

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1-866-377-8642

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